								Page	E
Form PTO-1449 U.S. DEPARTMEN		NT OF COMMERCE		ATTY. DOCKET NO.		Pages: 3		0	
(MODIFIED)		PATENT AND TRADEMARK OFFICE		Ε	047940-01	39	10.	084,640	
O I P INFORMATION DISCLOSURE CITATION					APPLICANT Koichi MASUDA et al.				
20 0 4 20C1 (E)				FILING DATE		GROUP ART UNIT		600/290	
	~/	everal sheets if nece			February 25, 2	<u> </u>			
CO MANION PA			U.S. PAT	EN	IT DOCUMENTS				
EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE		NAME	CLASS	SUB- CLASS	FILING II APPRO	F
Jun		4,356,261	10/26/82	Kuettner					
g		4,642,120	02/10/87	Nevo et al.					
		4,673,566	06/16/87	Goosen et al.			i		
or		4,846,835	07/11/89	Grande					
9		4,904,259	02/27/90	Itay					
9		4,927,761	05/22/90	Reading et al.					
9		5,053,050	10/01/91	Itay					
on		5,041,138	08/20/91	/ac	anti et al.				
(U.S. Patents continued on next page)									
		OTHER DOCU	MENTS (Includin	g A	uthor, Title, Date, Perti	inent Pages,	Etc.)		
gri.		Klagsburn, M., "Large Scale Preparation of Chondrocytes," Methods Enzymol., Vol. 58, pp. 560-564, 1979; published by Academic Press, Inc.							
0									
an	- •	Lee, R.C., et al., "Oscillatory compressional behavior of articular cartilage and its associated electromechanical propeprties," J. Biomech Eng., Vol. 103, No. 4, pp. 280-292, 1981.							
a	a	Hascall, V.C., et al., "Biosynthesis and Turnover of Proteoglycans in Organ Culture of Bovine Articular Cartilage," J. Rheumatol (Suppl. 11), Vol. 10, pp. 45-52, 1983.							
an		Mizrahi, J., et al., "The 'Instantaneous' Deformation of Cartilage: Effects of Collagen Fiber Orientation and Osmotic Stress," Biorheology, Vol. 23, pp. 311-330, 1986; published by Pergamon Journals Ltd.							
an		Frank, E.H., et al., "Cartilage electromechanics-II. A continuum model of cartilage electrokinetics and correlation with experiments," J. Biomech., Vol. 20, No. 6, pp. 629-639, 1987.							
am		Freshney, "Culture of Animal Cells: A Manual of Basic Techniques," 2d ed., pp. 137-168, 1987; published by A.R. Liss Inc., New York.							
N	Fernandez, P., et al., "The Structure of Anchorin CII, a Collagen Binding Protein Isolated from Chondrocyte Membrane," J. Biol. Chem., Vol. 263, No. 12, pp. 5921-5925, April 25, 1988.						yte		
			(Otl	ıer	Documents continued o				
EXAMINER	9	Q 44.	M		DATE CONSIDERE	of			
 EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include any copy of this form with next communication to applicant. 									

Form PTO-1449	U.S. DEPARTMENT OF COMMERCE	ATTY. DOCKET NO. 3	TECHACENTER 1600/2900
(MODIFIED)	PATENT AND TRADEMARK CONCE	047940-0119	10/054,710
INFORMAT	ION DISCLOSURE CITATION SEP 0 4 2022 SE	APPLICANT Koichi Masu	10/084,440 DA et al.
(Use s	everal sheets if necessary)	FILING DATE	GROUP ART UNIT
	OTHER DOCUMENTS (COM.) (including	ng Author, Title, Date, Pertinent Po	ages, Etc.)
gi	Aydelotte, M. B., et al., "Differences betwee Proteoglycan metabolism," Connective Ti and Breach, Science Publishers, Inc.	een sub-populations of cultured bovir ssue Res., Vol. 18, No. 3, pp. 223-23	ne articular chondrocytes. II. 14, 1988; published by Gordon
an.	Aydelotte, M. B., et al., "Differences betwee Morphology and cartilage matrix production published by Gordon and Breach, Science	on," Connective Tissue Res., Vol. 18,	ne articular chondrocytes. I. No, 3, pp. 205-222, 1988;
On.	Caplan, A., "Cell and Molecular Strategies 63, No. 5, pp. 692-699, 1989.	s for Massive Bone Repair/Regenera	tion," J. Jpn. Orthop. Assoc., Vol.
on.	Grande, D. A., "The Repair of Experiment Chondrocyte Transplantation," J. of Ortho Press, Ltd., New York.	ally Produced Defects in Rabbit Artic pedic Research, Vol. 7, pp. 208-219,	ular Cartilage by Autologous 1989; published by Raven
a.	Morales, T. I., et al., "Effects of Interleukin Metabolism in Bovine Articular Cartilage (1989; published by Gordon and Breach, S	Organ Cultures." Corrective Tissue Re	ein and Carbohydrate esearch, Vol. 19, pp. 255-275,
gn ,	Johnson, R. G., et al., "The early response Pathol., Vol. 38, pp. 37-52, 1990.	e of articular cartilage to ACL transec	ction in a canine model," Exp.
gn.	Kempson, G. E., "Age-related changes in study between the femoral head of the hip 1075, pp. 223-230, 1991; published by Els	joint and the talus of the ankle joint.	ular cartilage: a comparative " Biochem. Biophys. Acta., Vol.
an	Kwan, et al., "The Effect of Storage on the Study," J. Biomech. Eng., Vol. 114, pp. 14	Biomechanical Behavior of Articular 9-153, 1992.	Cartilage - A Large Strain
m.	Wu, J-J., et al., "Identification of Cross-lini Antiparallel Type II-Type IX Molecular Rela No. 32, pp. 23007-23014, November 15, 1 Molecular Biology, Inc.	ationship and Type IX to Type IX Bor	nding." J. Biol. Chem., Vol. 267.
gu,	Ratcliffe, A. et al., "In Vivo Effects of Napro Metalloproteinase Activities in Canine Artic published by The Journal of Bone and Join	cular Cartilage," J. Orthop. Res., Vol.	Metabolism, and Matrix 11, No. 2, pp. 163-171, 1993;
an.	Knudson, C. B., "Hyaluronan Receptor-dir Vol. 120, No. 3, pp. 825-834, February 199	ected Assembly of Chondrocyte Peri 93; published by The Rockefeller Uni	cellular Matrix," J. Biol. Chem., versity Press.
en.	Buckwalter, J. A., "Structural Differences E Aggregates," J. Orthop. Res., Vol. 12, pp.	Between Two Populations of Articular 144-148, 1994; published by the Orti	Cartilage Proteoglycan hopaedic Research Society.
700	MacGinitie, L. A., "Electric Field Stimulation	n Can Increase Protein Synthesis in pp. 151-160, 1994; published by the	Articular Cartilage Explants,"

• ,		
92	^	Wakitani, S., et al., "Messenchymal Cell-Based Repair of Large, Full-Thickness Defects of Articular Cartilage," J. Bone Joint Surg., Vol. 76-A, No. 4, pp. 579-591, 1994; published by The Journal of Bone and Joint Surgery, Incorporated.
OIPE)C58	Mok, S. S., et al., "Aggrecan Synthesized by Mature Bovine Chondrocytes Suspended in Alginate," The Journal of Biological Chemistry, Vol. 269, No. 52, pp. 33021-33027, December 30, 1994; published by The
25 0 4 200		American Society for Biochemistry and Molecular Biology, Inc.
O DEMARK		Hendrickson, D. A., et al., "Chondrocyte-Fibrin Matrix Transplants for Resurfacing Extensive Articular Cartilage Defects," J. or Orthopaedic Research, Vol. 12, pp. 485-497, 1994; published by Orthopaedic Research Society.
9	,	Häuselmann, H. J., et al., "Phenotypic stability of bovine articular chondrocytes after long-term culture in alginate beads," J. Cell Sci., Vol. 107, Pt. 1, pp. 17-27, 1994.
on		Gullak, F., et al., "Mechanical and biochemical changes in the superficial zone of articular cartilage in canine experimental osteoarthritis," J. Orthop. Res., Vol. 12, No. 4, pp. 474-484, 1994.
9		Setton, L. A., et al., "Mechanical properties of canine articular cartilage are significantly altered following transection of the anterior cruciate ligament," J. Orthop. Res., Vol. 12, No. 4, pp. 451-463, 1994.
gv	٠	transection of the anterior cruciate ligament," J. Orthop. Res., Vol. 12, No. 4, pp. 451-463, 1994. Masuda, K., et al., "Age-related Differences in the Metabolism of Hyaluronan Present in Two Distinct Compartments of the Matrix Formed by Articular Chondrocytes In Vitro," 41st Annual Meeting, Orthopaedic Research Society, February 13-16, 1995, Orlando, Florida.
gu		Sah, R. L., et al., "Tissue engineering of articular cartilage," Orthopedics, Vol. 6, No. VI, pp. 52-60, 1995; published by Rapid Science Publishers.
gn		Häuselmann, H. J., et al., "Adult human chondrocytes cultured in alginate form a matrix similar to native human articular cartilage," Am. J. Physiol., Vol. 271, pp. C742-752, 1996; published by American Physiological Society.
m	•	Petit, B., et al., "Characterization of Crosslinked Collagens Synthesized by Mature Articular Chondrocytes Cultured in Alginate Beads: Comparison of Two Distinct Matrix Compartments," Experimental Cell Research, Vol. 225, pp. 151-161, 1996; published by Academic Press, Inc.
om	•	Sah, R. L., et al., "Differential effects of serum, insulin-like growth factor-I, and fibroblast growth factor-2 on the maintenance of cartilage physical properties during long-term culture," J. Orthop. Res., Vol. 14, No. 1, pp. 44-52, 1996.
	•	Martel-Pelletier, J. et al., "Effects of Aceclofenac and Diclofenac on Synovial Inflammatory Factors in Human Osteoarthritis," Clin. Drug Invest., Vol. 14, No. 3, pp. 226-232, Sept. 1997; published by Adis International Limited.
on	/	Chiba, K., et al., "Metabolism of the Extracellular Matrix Formed by Intervertebral Disc Cells Cultured in Alginate," Spine, Vol. 22, No. 24, pp. 2885-2893, December 1997; published by Lippincott-Raven Publishers.
a		Huch, K., et al., "Effects of Recombinant Human Osteogenic Protein 1 on the Production of Proteoglycan, Prostaglandin E ₂ , and Interleukin-1 Receptor antagonist by Human Articular Chondrocytes Cultured in the Presence of Interleukin-1β, Arthritis & Rheumatism, Vol. 40, No. 12, pp. 2157-2161, December 1997;
		published by American College of Rheumatology.
on		Shakibaei, M., et al., "Differentiation of Mesenchymal Limb Bud Cells to Chondrocytes in Alginate Beads," Cell Biology International, Vol. 21, No. 2, pp. 75-86, 1997; published by Academic Press Limited.

• •				
NP &		Schinagi, R. M., et al., "Depth-Dependent Confined Compression Modulus of Full-Thickness Bovine Articular Cartilage," Journal of Orthopaedic Research, Vol. 15, pp. 499-506, 1997; published by Orthopaedic Research Society.		
1./015				
SPOLE	C58.32	Rirle, K. M., "Product Differentiation by Analysis of DNA Melting Curves during the Polymerase Chain Reaction," <i>Analytical Biochemistry</i> , Vol. 245, pp. 154-160, 1997; published by Academic Press.		
THE TOADLY		Chen, A., et al., "Inhomogeneous and strain-dependent electromechanical properties of full-thickness articular cartilage," Trans. Orthop. Res. Soc., Vol. 23, p. 225, 1998.		
am	1	Chiba, K. et al., "A new culture system to study the metabolism of the intervertebral disc in vitro," Spine, Vol. 23, No. 17, pp. 1821-1827, 1998; published by Lippincott Williams & Wilkins.		
on	-	Saito, S. et al., "Dexamethasone Inhibits Collagen Degradation Induced by the Combination of Interleukin-1 and Plasminogen in Cartilage Explant Culture," Biol. Pharm, Bull, Vol. 22, No. 7, pp. 727-730, 1999.		
m	•	and Plasminogen in Cartilage Explant Culture," Biol. Pharm, Bull, Vol. 22, No. 7, pp. 727-730, 1999. Chen, S. et al. "Biomechanical Properties of Tissue-Engineered Cartilage Synthesized Using the 'Alginate-Recovered-Chondrocytes' (ARC) Method," presented at the International Symposium on Molecular Cell Biology of Cartilage Development and Repair, June 2-6, 1999, Granlibakken, Lake Tahoe, California.		
on		Masuda, K. et al, "A Novel Two Step-Method for the Formation of Cartilage Tissue (Alginate Recovered- chondrocyte Method: ARC Method)," presented at the International Symposium on Molecular Cell Biology of Cartilage Development and Repair, 1999, Granlibakken, Lake Tahoe, California.		
an		Matsumoto, T., et al., "Tissue engineered intervertebral disc: enhancement of formation with osteogenic protein-1." 2 nd International Conference, Bone Morphogenetic Proteins 2000, June 7-11, Granlibakken, Lake Tahoe, California.		
Qu	-	Wren, Tishya A.L. et al., "Mechanobiology of tendon adaptation to compressive loading through fibrocartilaginous metaplasia," J. Rehab. Res. and Dev., Vol. 37, No. 2, pp. 135-143, March/April 2000.		
an	`	Wren, Tishya A. L. et al., "Tendon and Ilgament adaptation to exercise, immobilization, and remobilization," J. Rehab. Res. and Dev., Vol. 37, No. 2, p. 217-224, March/April 2000.		
an	,	Budsberg, S. C., et al., "The Science of Articular Cartilage and Its Deterioration During Osteoarthritis," 2000, 2001, 2002; published by Pfizer Inc., at http://www.pfizer.com/ah/rimadylvet/advances.html.		
ar i	.~	Rowan, A.D., "Cartilage catabolism in arthritis: factors that influence homeostasis," Expert Review in Molecular Medicine, Vol. 5, July 2001; published by Cambridge University Press.		
91	<i>c.</i>	Sah. R. L., et al., "Articular Cartilage Repair," in Koopman, W. J., ed., Arthritis and Allied Conditions A Textbook of Rheumatology, 14 th ed., pp. 2264-2278, 2001; published by Lippincott Williams & Wilkins, Philadelphia.		
a		Matsumete, T., et al., "Formation of transplantable disc shaped tissues by nucleus pulposus and annulus fibrosus cells: Biochemical and biomechanical properties," Ortho. Res. Soc. Trans., Vol. 20, No. 897, 2001.		
an		Sun, Y., et al., "Characterization of nucleus pulposus-like tissue formed in vitro," Journal of Orthopaedic Research, Vol. 19, pp. 1078-1084, 2001; published by Elsevier Science Ltd.		
EXAMINER		DATE CONSIDERED 12/10/04		
 EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include any copy of this form with next communication to applicant. 				

Form PTO-1449 U.S. DEPARTMENT OF COMMERCE ATTY. DOCKET NO. 3 SERIAL NO. & H VENIER 1600/2900 10/064,210 PATENT AND TRADEMARK OF FICE (MODIFIED) 047940-0119 Ó **APPLICANT** INFORMATION DISCLOSURE CITATION Koichi MASUDA et al. 255 0 1 20cs 20 FILING DATE **GROUP ART UNIT** 01/22/2002 (Use several sheets if necession บั.ร์⊅PACENT DOCUMENTS (cont.) **DOCUMENT** FILING DATE **EXAMINER** SUB-REF DATE NAME CLASS IF INITIAL NUMBER **CLASS APPROPRIATE** 5,067,964 11/26/91 Richmond et al. 5,073,491 12/17/91 Familletti 03/30/93 5,197,985 Caplan et al. 5,226,914 07/13/93 Caplan et al. ov 02/15/94 5,286,495 Batich et al. 03/15/94 5,294,446 Schlameus et al. TECH CENTER 1600/2900 **Prent** 5,364,580 11/15/94 11/29/94 5,368,858 Hunziker 01/23/96 5,486,359 Caplan et al. 5,516,532 05/14/96 Atala et al. 5,536,656 07/16/96 Kemp et al. 5,538,887 07/23/96 Peindl et al. 5,541,295 07/30/96 Barrach et al. 5,549,904 08/27/96 Juergensen et al. 5,591,740 01/07/97 Chipman et al. 5,612,028 03/18/97 Sackier et al. 5,635,390 06/03/97 Peindl et al. 5,648,099 07/15/97 Batich et al. 5,667,778 09/16/97 Atala 5,693,514 12/02/97 Dorian et al. 5,693,624 12/02/97 Hardy et al. 5,700,289 12/23/97 Breitbart et al. 5,700,774 12/23/97 Hattersley et al. 5,707,962 01/13/98 Chen et al. 5,709,854 01/20/98 Griffith-Cima et al. 5.713.374 02/03/98 Pachence et al. 5,716,404 02/10/98 Vacanti et al. 5,716,616 02/10/98 Prockop et al. 5,723,331 03/03/98 Tubo et al.

04/07/98

Bruder et al.

5,736,396

SERIAL NO. U.S. DEPARTMENT OF COMMERCE ATTY. DOCKET NO. 3 Form PTO-1449 PATENT AND TRADEMARK OFFICE 047940-0149 (MODIFIED) APPLICANT Koichi MASUDA et al. INFORMATION DISCLOSURE OTATION SEP 0 4 7022 **GROUP ART UNIT** FILING DATE (Use several sheets if necessary) 02/20/2002 U.S. PANELY DOCUMENTS (cont.) FILING DATE SUB-**DOCUMENT EXAMINER CLASS** NAME IF DATE REF CLASS INITIAL NUMBER **APPROPRIATE** 5,786,217 07/28/98 Tubo et al. RECEIVED Bartnik et al. 5,872,209 02/16/99 05/11/99 Purchio et al. 5,902,741 SEP 0 5 2002 06/01/99 Johnstone et al. 5,908,784 TECH CENTER 1600/2900 5,932,459 08/03/99 Sittinger et al. 5,935,796 08/10/99 Fosang 06/20/00 Kandel et al. 6,077,989 6,093,557 07/25/00 Pui et al. Poole et al. 10/17/00 6,132,976 11/07/00 Sittinger et al. 6,143,501 11/07/00 Broka et al. 6,143,744 12/12/00 Thompson et al. 6,159,460 02/13/01 Chen et al. 6,187,907 Masuda et al. 6,197,061 03/06/01 6,197,586 03/06/01 Bhatnagar et al. Peterson et al. 6,200,606 03/13/01 Grande et al. 6,214,369 04/10/01 06/05/01 Rieser et al. 6,242,247 Lee et al. 10/23/01 6,306,169 11/06/01 Hicks, Jr. 6,312,952 11/13/01 Karn et al. 6,316,194 11/20/01 meenen et al. 6,319,712

Page 1 of 1 ATTY, DOCKET NO. SERIAL NO. U.S. DEPARTMENT OF COMMERCE Form PTO-1449 10/084,640 047940-0139 PATENT AND TRADEMARK OFF (MODIFIED) APPLICANT Koichi MASUDA et al. INFORMATION DISCLOSURE CITATION FILING DATE **GROUP ART UNIT** 02/25/2002 (Use several sheets if necessary) **DOCUMENTS FILING DATE** SUB-**DOCUMENT EXAMINER** NAME **CLASS** IF DATE REF **CLASS** INITIAL NUMBER **APPROPRIATE** CM 5,326,357 7/5/94 Kandel **FOREIGN PATENT DOCUMENTS** TRANSLATION SUB-**DOCUMENT CLASS** DATE **COUNTRY** REF **CLASS** YES NUMBER NO 2001-89390 4/3/01 JP Or-12/22/94 wo 97 94/28889 98/55594 12/10/98 wo Qù, OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) **EXAMINER** DATE CONSIDERED

* EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include any copy of this form with next communication to applicant.